

Wastewater System Maintenance Recommendations

FRWA recommends Regular Wastewater System Preventive Maintenance -- aimed at the prevention of breakdowns and failures. Some tasks should occur weekly, monthly, quarterly or annually.

The primary goal of preventive maintenance is to prevent the failure of pumps and equipment before it actually occurs. It is designed to preserve and enhance equipment reliability by replacing worn components before they actually fail. Preventive maintenance activities include lift stations, air release valves (ARVs), headworks structures (screening and in some cases grit removal) aeration equipment and return and waste sludge pumps and digestion aeration equipment. partial or complete overhauls at regular specified periods; oil changes; lubrication; and so on. In addition, operators can record equipment deterioration so they know to replace or repair worn parts before they cause system failure. This information can be used as part of a systems asset management plan and help prioritize and budget for the repairs. Maintaining a wastewater system, is like asking an auto mechanic to preform maintenance on a car or truck while driving down the highway at 55 mph. Wastewater lift stations and wastewater plants have to stay in compliance at all times and can't be taken offline for the needed maintenance.

January Wastewater System Maintenance Recommendations

- Inspect headwork (bar screen, static screens and grit removal) facilities for proper operations and repair any deficiencies discovered
- Inspect and clean waste activated sludge pumps
- Inspect and clean return activated sludge pumps
- When freezing temperatures are predicted make sure water is dripped to prevent pipe damage
- Test eye wash and emergency shower
- Inspect fire extinguishers

February Wastewater System Maintenance Recommendations

- If chlorine gas is being used, review emergency repair kits (A for 100-150, B for ton) and practice with kit contents to make sure employees are familiar with all devices and proper installation
- When freezing temperatures are predicted make sure water is dripped to prevent pipe damage
- Inspect, clean & repair motor control panels in wastewater treatment plant. Many plants utilize infrared imagines to locate electrical leakage (hot spots) which can lead to an interruption in operations
- Test eye wash and emergency shower
- Inspect fire extinguishers

March Wastewater System Maintenance Recommendations

- Inspect effluent ponds or storage tanks for defects or deficiencies. Repair as needed
- Inspect a portion of lift stations and assess conditions. There are many different coating/lining options
- Perform inspection on all lift station wet wells to make sure none are in need of repair
- Test eye wash and emergency shower
- Inspect fire extinguishers

April Wastewater System Maintenance Recommendations

- Clean & inspect clarifier(s). Test torque alarms if rake and skimmer arms and repair if not working, repair alarm. Major damage can be caused if something gets tangled in the skimmer arm and torque alarm does not shut down drive
- Preform inspection on remaining lift stations and note any repair items
- Inspect air release valves on all force mains

- Clean & Inspect effluent filter(s) if present. Measure sand/media levels and add new media to bring levels back to manufactures recommendations if low
- Test eye wash and emergency shower
- Inspect fire extinguishers

May Wastewater System Maintenance Recommendations

- If sludge drying beds are utilized, make sure media and under drains are in proper operation
- Inspect sludge transfer pumps for proper operation
- Test eye wash and emergency shower
- Inspect fire extinguishers
- Discuss heat related injury prevention and make employees aware of the symptoms

June Wastewater System Maintenance Recommendations (Hurricane Season begins June 1st)

- Review and Update Emergency Response Plan. Making sure phone numbers are current for all vendors and contractors as well as employees
- Contact electrician to check emergency generator & run on load bank
- Contact electrician to check running amps on pumps
- Make sure you have GPS coordinates of all lift stations and valves for assisting utilities that provide assistance following a disaster
- Test eye wash and emergency shower
- Inspect fire extinguishers

July Wastewater System Maintenance Recommendations

- Prepare Wastewater System for Summer Operation / Hurricane Season (Fuel, Generators, Shutters)
- Perform plant inspection to identify any objects that can become projectiles during high winds and dispose them as needed
- Test eye wash and emergency shower
- Inspect fire extinguishers

August Wastewater System Maintenance Recommendations

- Review and Update Emergency Response Plan
- Contact Electrician to Check Emergency Generator & Run on Load Bank
- Contact Electrician to Check Running Amps on Pumps
- Inspect Air release valves for proper operation. Repair or replace as needed. If an air release valve is not operating properly it could lead to a wastewater spill or cause lift station pumps to run longer and use more electricity, costing the community more in electrical costs.
- Clean, inspect aeration equipment. Seventy percent of all electrical usages occurs in the aeration basin for a treatment plant's electrical bill. Look for dead spots within aeration tank and repair or replace diffuser(s) in question. With diffused aeration being the most common in Florida, clogged or dirty air filters is the leading cause for poor performance
- Test eye wash and emergency shower
- Inspect fire extinguishers

September Wastewater System Maintenance Recommendations

- Operate/exercise ALL Valves within Treatment Plant for proper operation. Note any deficiencies and ensure corrective action is taken
- Clean and inspect all safety equipment
- Test Pressure Reducing Valves & RPZs. Record dates in log book for FDEP inspection
- Test eye wash and emergency shower

- Inspect fire extinguishers

October Wastewater System Maintenance Recommendations

- Overhaul Chemical Feed Pumps (Feeder Head Cleaned, O-Rings, Check Valves & Diaphragms, Worn-Out Parts Replaced)
- Clean & Inspect Chemical Feed Lines
- Clean & Inspect Chemical Solution Tanks
- Calibrate Chemical Feed Pumps after Overhaul
- Test eye wash and emergency shower
- Inspect fire extinguishers

November Wastewater System Maintenance Recommendations

- Exercise HALF of ALL valves within collection systems and treatment facilities
- Check or verify the influent and effluent flow meters for accuracy. Required annually. Record date and make copy of verification and place in log book for FDEP inspectors
- Check the perimeter fencing and repair any holes in the fence. All wastewater facilities are required to be fenced per FAC 62-600
- Inspections of all tanks within the facility for any structural deficiencies
- Test eye wash and emergency shower
- Inspect fire extinguishers

December Wastewater System Maintenance Recommendations

- Exercise remaining HALF of Valves (not exercised in November)
- Inspect digester(s) for proper operation
- Inspect chlorine contact basin for solids build up and clean if needed
- Prepare for winter and colder temperatures by making sure anti-freeze protection devices are working properly
- Test eye wash and emergency shower
- Inspect fire extinguishers